

REMARKS

Claims 1-20 have been canceled. New claims 21-35 have been added. Claims 21-35 remain in the application. It should be appreciated that the new claims merely clarify the invention disclosed by the Applicant and are consistent with the specification and drawings.

The drawings were objected to since Figure 2 did not provide adequate labeling for reference numbers 13, 17, 19 and 26. The drawings have been amended to provide clearer identification of elements. In addition, the reference numbers have been increased by 100, to more fully delineate these reference numbers from those utilized with respect to Figure 1. Applicant respectfully submits that the drawings are now in a condition for allowance.

The specification was objected to because of several informalities. In particular, the margin at the top of the pages was inadequate, and the reference numerals were duplicative. The reference numbers associated with Figure 2 have been increased by 100, to more fully delineate these reference numbers from those utilized with respect to Figure 1. A substitute specification is submitted concurrent with this amendment to correct these informalities. Applicant respectfully submits that the specification is now in a condition for allowance.

Claims 9 and 15-20 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has canceled these claims, and respectfully submits that this objection is now moot.

Claims 1-20 were rejected under 35 U.S.C. §102(e) as being anticipated by Ehrman et al. Applicant respectfully traverses this rejection.

United States Patent Publication Number 2001/0037298 A1 to Ehrman et al. discloses an automobile vehicle rental return and billing system. The system includes a vehicle 1, having a unique vehicle identifier, that is to be rented and removed from a vehicle renting lot.

Each vehicle is provided with a device 14 having a transmitter/receiver means and a memory storage means. The vehicle identifier is stored in the memory storage means. Each vehicle 1 also includes an odometer reading sensor 30, and a fuel sensor 31 in communication with the device 14. Each of the vehicles also includes a data collection base and a means for enabling each transmitter/receiver base to communicate with the data collection base when the vehicle is returned to the vehicle rental lot, including the stored final odometer reading and fuel level for remote calculation of charges and check-in of the vehicle when returned to the storage lot. United States Patent Publication Number 2001/0037298 A1 does not disclose a system and method of identifying and locating a newly manufactured vehicle within a storage yard for vehicle repair purposes.

In contradistinction, new claim 21 discloses a method of locating a fully assembled vehicle stored in a storage facility in order to perform repairs on the vehicle prior to shipping the vehicle from the storage facility to a potential customer. The method includes the steps of receiving an assembled vehicle and storing the vehicle within the storage facility. The method also includes the steps of placing a selectively readable tag on the vehicle that operatively identifies the stored location of the vehicle and saving the stored location of the vehicle within the storage facility in a computer database operatively in communication with the selectively readable tag. The method still also includes the steps of identifying a condition for modifying the vehicle and dynamically locating the vehicle within the storage facility by operatively reading the tag to identify the stored location of the vehicle. The method further includes the steps of performing the modification to the vehicle and releasing the vehicle for shipment to the customer after the vehicle is modified. Independent claims 29 and 34 are similar to claim 21, and include additional features.

United States Patent Publication Number 2001/0037298 A1 to Ehrman et al. does not disclose, anticipate or otherwise suggest the claimed invention of claim 21. United States Patent Publication Number 2001/0037298 A1 to Ehrman et al. merely discloses a rental vehicle return and billing system. The system includes a device having a transmitter/receiver means and memory storage means that is placed on the vehicle. The memory of the vehicle includes a vehicle identifier, such as the vehicle identification assigned to the vehicle by the vehicle manufacturer. The device is in communication with a fuel sensor and an odometer sensor. The purpose of the device is to calculate the vehicle rental charges when the vehicle is returned to the rental lot.

United States Patent Publication Number 2001/0037298 A1 to Ehrman et al. does not disclose a method of locating a vehicle within a storage facility for repair purposes using a transmitting/receiving device that tracks the location of the vehicle within the storage facility. In fact the teachings of this patent publication teach away from the present invention since the Ehrman et al. publication discloses a method of using a transmitting/receiving device to track the vehicle when outside the shipping yard, and to identify the vehicle upon entering the shipping yard and reads the information sensed by the device while away from the shipping yard in order to calculate rental charges. This is not the same as a method of tracking the location of the vehicle within the shipping yard. There is nothing in United States Patent Publication Number 2001/0037298 A1 to Ehrman et al. to suggest its use within the storage facility to locate the vehicle within the storage facility, in fact, there is no need to utilize the rental cost calculating method disclosed by Ehrman et al. within the storage facility. Therefore, it is respectfully submitted that claims 21, 29 and 34, and the claims dependent therefrom, are in a condition for allowance, which allowance is respectfully solicited.

Claims 1-3, 15 and 16 were rejected under 35 U.S.C. §102(e) as being anticipated by Madden et al. (U.S. Patent Number 6,516,239). Applicant respectfully traverses this rejection.

U.S. Patent Application 6,516,239 to Madden discloses an assembly line control methodology for use in the manufacture of a vehicle. The methodology is utilized to track the various subassemblies that are integrated together to form the finished product within the assembly plant. The methodology includes the steps of forming lots or groups of vehicles that are conventionally scheduled to be manufactured in groups. The methodology also includes the steps of moving the lots of assemblies from a first location to a second location, and tracking a position of each assembly in the first lot as the assembly moves along a path between the first and second locations. The methodology also includes the steps of determining whether an assembly of the first lot is separated from other assemblies of the first lot. The methodology further includes the steps of routing at least one of the plurality of assemblies along an alternate path, so that the separated assembly is reunited with the other assemblies of the first lot. Madden et al. '239 does not disclose a system and method of identifying and locating a newly manufactured vehicle within a storage yard for vehicle repair purposes.

Madden et al. '239 does not disclose, anticipate or otherwise suggest the claimed invention of claims 21, 29 or 34. Madden et al. '239 merely discloses an assembly line control system for use in a manufacturing plant during the assembly of the vehicle. In Madden et al. '239 the subassemblies are grouped together by lots, and the location of the assembly lot is tracked. The purpose of this methodology is to keep like subassemblies together during the manufacturing process, and to ensure that the right component parts are available at the assembly line at the same time for the right vehicle.

Madden et al. '239 does not disclose a method of locating a vehicle within a storage facility for repair purposes using a transmitting/receiving device that tracks the vehicle within the storage facility. In fact the teachings of this patent also teach away from the present invention since this patent discloses a methodology for tracking a component part within a group of like component parts within a manufacturing plant. This is not the same as a method for tracking the location of an individual vehicle within the shipping yard using a readable tag device containing the location of the vehicle. The steps of forming lots or grouping assemblies, tracking the location of the lot as it is moved along a path between first and second locations, locating assemblies separated from the lot and reuniting the lost assembly with the lot, is not the same as a methodology that includes the steps of receiving and locating an already assembled vehicle within a storage facility, placing a selectively readable tag encoded with the location of the vehicle on the vehicle, identifying a condition for modifying the vehicle, and dynamically locating the vehicle by reading the tag using a tag reader. There is nothing Madden et al. '239 to suggest its use within a storage facility to locate the vehicle within the storage facility. Therefore, it is respectfully submitted that claims 21, 29 and 34, and the claims dependent therefrom are in a condition for allowance, which allowance is respectfully solicited.

Claims 4-14 and 17-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Madden et al. (U.S. Patent Number 6,516,239) in view of Carrender et al. (U.S. Patent Number 5,850,187). Applicant respectfully traverses this rejection for the reasons set forth above with respect to the rejection of claims 1-3, 15 and 16 under 35 U.S.C. §102(e), and as discussed below.

U.S. Patent Number 5,850,187 to Carrender et al. discloses an integrated electronic tag reader and wireless communications link. Carrender et al. '187 discloses an apparatus for

reading data from an electronic tag including an antenna, and a source for generating a radio frequency interrogation signal. The system also includes a transceiver for transmitting the radio frequency interrogation signal to the electronic tag through the antenna and for receiving a radio frequency signal returned from the electronic tag having encoded data. The system further includes a signal processor for processing the radio frequency signal returned from the electronic tag and for decoding the encoded data received from the electronic tag. The system further includes a modulator for combining the decoded data and the radio frequency interrogation signal from transmission to a remote host, and a portable housing adapted to accommodate the antenna, the transceiver, the source, the signal processor and the modulator to allow for identification of objects at locations removed from the remote host unit.

The method of identifying an object by a reader includes the steps of providing a reader including a transceiver for generating a first radio frequency signal for interrogation of an electronic tag associated with the object, and transceiving the first radio frequency signal to the electronic tag. The method also includes the steps of receiving a modulated radio frequency signal having encoded identification information associated with the electronic tag at the transceiver from the electronic tag that is responsive to the first radio frequency signal. The method further includes the steps of decoding the identification information, modulating the first radio frequency signal using the decoded identification information, and the transceiver transmitting the modulated first radio frequency signal to a remote host. Carrender et al. '187 does not disclose a system and method of identifying and locating a newly manufactured vehicle within a storage yard for vehicle repair purposes.

None of the references, alone or in combination with each other, teach or otherwise suggest the claimed invention of claims 21, 29 or 34 and the claims dependent therefrom.

Specifically, the Madden et al. '239 reference merely discloses a methodology for dynamically tracking a subassembly within a group of like subassemblies within a manufacturing plant during the assembly of the vehicle. Madden et al. '239 does not disclose a method for tracking the stored location of an individual vehicle within the shipping yard using a readable tag device containing the stored location of the vehicle. The present invention solves a different problem than that solved by the invention of Madden et al. '239.

Carrender et al. '187 merely discloses an apparatus for reading data from an electronic tag including an antenna, and a source for generating a radio frequency interrogation signal. The system includes a transceiver for transmitting the radio frequency interrogation signal to the electronic tag through the antenna and for receiving a radio frequency signal returned from the electronic tag having encoded data. Carrender et al. '187 discloses a method of providing a reader having a transceiver to generating a first radio signal to interrogate an electronic tag associated with the object, receiving a signal with encoded information, decoding the information and sending the information to a remote host. Carrender et al. '187 does not disclose a method for tracking the location of an individual vehicle within the shipping yard using a readable tag device containing the location of the vehicle.

The combination of the references would not render obvious Applicant's invention. The combination of Madden et al. and Carrender '187, if combinable, would yield a system and method including the step of grouping subassemblies together by lots, and the tracking location of the lots to keep like subassemblies together during the manufacturing process. An apparatus of Carrender et al. '187 would be used with the assembly to track the lot. The apparatus would include a data reader for reading data from an electronic tag having an antenna, and a source for generating a radio frequency interrogation signal. The system would also include a transceiver for transmitting the radio frequency interrogation signal to

the electronic tag through the antenna and for receiving a radio frequency signal returned from the electronic tag having encoded data, in order to track the assembly and lot during the manufacturing process, and return lost assemblies to the corresponding lot.

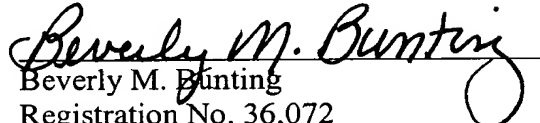
The combination of Madden et al. '269 and Carrender et al. '187 is clearly distinguishable from Applicant's invention, in that the present invention is utilized to locate stationary vehicles stored in a shipping facility, and to hold and or repair the vehicle if necessary prior to shipping to the customer. This is distinguishable from the suggested combination that tracks moving subassemblies within a manufacturing facility. Further, Madden et al. '269 clearly discloses at column 9, lines 33-42 that the vehicle includes a barcode type identifier, and the assembly line includes carrier identification, and the assembly position is determined by comparing the two identifiers. In addition, the location identifier of the present invention is used with different vehicles, in comparison to the vehicle identifier of Madden et al. '269 that is permanently associated with the particular vehicle. The unobviousness of the present invention is the combination of methodology steps that include locating an individual vehicle within the shipping yard, placing a readable tag device containing the location of the vehicle on the vehicle, determining a need to repair the vehicle and locating the vehicle for repair by selectively reading the tag.

Therefore, it is respectfully submitted that claims 21, 29, and 34 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. 103.

Based on the above, Applicant submits that the claims are in a condition for allowance, which allowance is respectfully solicited. If the Examiner finds to the contrary, it

is respectfully requested that the undersigned in charge of this application be called at the telephone number given below to resolve any remaining issues.

Respectfully submitted,


Beverly M. Bunting
Registration No. 36,072
Gifford, Krass, Groh, Sprinkle,
Anderson & Citkowski, P.C.
280 N. Old Woodward Ave., Suite 400
Birmingham, MI 48009-5394
(248) 647-6000

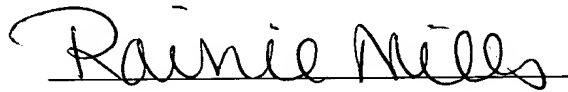
Attorney for Applicant

BMB/gs
GS-W:\Word Processing\bmb\FGT11402-amd.doc

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" MAILING LABEL NUMBER EV339612744US
DATE OF DEPOSIT 7/29/03

I hereby certify that this paper or fee (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service "Express Mail Post Office To Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



METHOD FOR MAINTAINING THE QUALITY OF PRODUCED PRODUCTS

(1) FIELD OF THE INVENTION

5 The present invention generally relates to a method for maintaining the quality of produced products and more particularly, to a method which allows products to be quickly and efficiently located within a storage facility in order to allow repairs or modifications to be made to these products before they are shipped to a customer or dealer.

(2) BACKGROUND OF THE INVENTION

10 Products or items, such as and without limitation vehicles, are typically produced or created within a manufacturing plant or facility. The produced products are then typically driven or placed within a temporary storage yard or facility where they are selectively placed upon a railcar or other type of transport carrier or conveyance for shipment to a dealer or customer.

15 Oftentimes, no record is kept of the initial location of each of these items within the yard. Further, no record is typically kept of the various locations that these items are respectively and later moved to or driven to within the yard, as new items are received. Hence, a manual search of the entire yard must usually be made in order to locate a particular item, should the item

20 require service or repair prior to shipment.

Sometimes a plant or manufacturing facility will discover that previously manufactured items, including those items or products which have been placed within the storage yard for shipment, have an undesirable attribute

or characteristic that must or should be corrected or repaired. Due to the relatively high cost of notifying customers of these needed modifications and the relatively high cost of having a dealer or other third party make these needed modifications, it is highly desirable to make these modifications to the products before they are shipped from the yard.

In the past, upon the discovery of such an undesirable attribute or characteristic, shipment from the yard was interrupted and/or stopped while the yard was manually searched for the items which were to be modified. Such an interruption caused an undesirable delay in shipping products, disrupted the entire product shipping schedule, and increased overall production cost, as the plant production schedule was similarly disrupted.

There is therefore a need for a method for maintaining the quality of manufactured items or products in a manner which overcomes at least some of the drawbacks of the previously delineated methods and for "containing" and rectifying undesirable attributes and/or characteristics of products before they are transported to customers and/or dealers of a business enterprise.

SUMMARY OF THE INVENTION

It is a first object of the present invention to provide a method for maintaining the quality of manufactured or produced items in a manner which overcomes at least some of the previously delineated drawbacks of prior methods.

It is a second object of the present invention to provide a method for maintaining the quality of manufactured or produced items in a manner which

overcomes at least some of the previously delineated drawbacks of prior methods and which allows these items to be quickly and efficiently located within a storage yard or facility, effective to contain and rectify undesirable product attributes/characteristics.

5 According to a first aspect of the present invention, a method for maintaining the quality of an item is provided. The method comprises the step of placing the item within a certain facility; storing the location of the item; and using the stored location to retrieve the item and to make repairs to the item.

10 These and other features, aspects, and advantages of the present invention will become apparent from a reading of the following detailed description of the preferred embodiment of the invention and by reference to the following drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

15 Figure 1 is a flowchart which illustrates ~~and/or comprises~~ the methodology of the preferred embodiment of the invention; and

 Figure 2 is a block diagram of an item reception area which incorporates the methodology of the preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

20 Referring now to Figures 1 and 2, there is respectively shown a flowchart 10 which illustrates ~~and/or comprises~~ the methodology of the preferred embodiment of the invention and a block diagram of an item

reception area which utilizes the methodology of the preferred embodiment of the invention.

As shown, ~~flowchart or the~~ methodology 10 includes a first step 12 which requires the receipt of and/or production or manufacture of certain items, such as vehicles 11 shown in Figure 2. It should be appreciated that while the following discussion describes the use of the methodology of the preferred embodiment of the invention 10 with vehicles 11, the methodology 10 may be used with a wide variety of dissimilar items and nothing in the specifications should limit the scope of the invention to vehicles. Step 14 follows step 12 and, in this step, a selectively readable tag or tag assembly, such as tag or tag assembly 13 113, is placed upon each of the vehicles 11. Such a tag or assembly 13 113 may comprise, by way of example and without limitation, the electronic tags or devices ~~referred to by reference number "16"~~ and described within United States Patent Number 5,920,287 ("the '287 patent") which is fully and completely incorporated herein by reference, ~~word for word and paragraph by paragraph.~~ Each ~~member 13~~ tag assembly 113 may also comprise the combination of such a tag 16 113 and a device or a member 117 which may selectively receive information and which is adapted to allow the received information to be selectively "read" or scanned by an optical or bar code reader type assembly (not shown). Tags 13 113 may also be selectively "read" or scanned by the use of the tag readers or reader assemblies which are described within the '287 patent ~~and which are generally referred to by reference number "10" within the '287 patent.~~ Such readers are generally

shown as members or assemblies ~~47~~ 117 within Figure 2 of this Application. Step 15 follows step 14 and, in this step, the received items are placed within a storage yard or storage facility ~~49~~ 119. The storage facility ~~49~~ 119 similarly may selectively include the tracking and processing aspects and/or devices of the system which is more fully described within the '287 patent (e.g., the "RF processor system" and "asset management database"), including the computer ~~which is referred to by reference number "26" within Figure 1 of the '287 patent and within~~ shown at 126 of Figure 2 of this application.

Step 16 follows step 15, and in this step, the location of each of the vehicles ~~44~~ 111 is stored within a ~~computer system, such as~~ computer system ~~26 which is described within the '287 patent.~~ This step 16 may be accomplished by placing a unique and selectively readable identification number on and/or within each tag assembly ~~43~~ 113 and separately interrogating each tag assembly ~~43~~ 113 as the vehicles ~~44~~ 111 respectively enter the yard or facility ~~49~~ 119 and/or when they are stored at a certain respective initial location. In this manner, the respective identifying vehicle numbers and respective vehicle locations are obtained and placed within a computer database which may be contained within computer ~~26~~ 126. Hence, each received vehicle ~~44~~ 111 together with its respective initially stored location is contained within computer ~~26~~ 126.

Step 18 follows step 16 and, in this step, a service request or need is communicated to personnel within the yard or storage facility ~~49~~ 119 from the manufacturing plant (not shown), indicating that a certain and previously

received vehicle ~~11~~ 111 may require certain modifications and/or a certain group of previously received vehicles ~~11~~ 111 may need certain service or repair. This need may also arise from those individuals residing within the storage yard or facility ~~19~~ 119, or may emanate from various other sources
5 (i.e., a component provider or manufacturer).

Step 20 follows step 18 and, in this step, the tags ~~13~~ 113 are remotely and "dynamically" interrogated by the cooperative operation of members or assemblies ~~17~~ 117 and computer ~~26~~ 126 to verify the previously stored vehicle location and/or to determine the current location of a certain "targeted" vehicle
10 ~~11~~ 111 (i.e., a vehicle ~~11~~ 111 requiring service), or certain group of targeted vehicles ~~11~~ 111, thereby allowing the targeted vehicle(s) ~~11~~ 111 to be quickly and efficiently accessed within the yard or storage facility, even if the vehicle(s) ~~11~~ 111 have been moved from its and initially stored location. As used in this application, the term "dynamically" means that the respectively
15 stored location of each of the vehicles ~~11~~ 111 may be obtained even if these vehicles ~~11~~ 111 have been moved from their respective and initial storage position within facility or yard ~~19~~ 119 and without the need to manually search for these vehicles ~~11~~ 111 within the facility or yard ~~19~~ 119.

Step 21 follows step 20 and, in this step, the vehicles ~~11~~ 111 or units in
20 need of service are placed "on hold". In the preferred embodiment, the "on hold" status may be selectively placed into the respective tag ~~13~~ 113 of any of the targeted vehicles ~~11~~ 111 or units that are in need of service or repair, and is effective to substantially prevent these vehicles ~~11~~ 111 or units from being

shipped from the facility or yard ~~19~~ 119. That is, personnel "reading" the tags ~~13~~ 113 (i.e., by use of a scanner device) prior to vehicle shipment are automatically and/or electronically notified of the "on hold" status of the vehicles ~~11~~ 111 and accordingly do not ship the vehicles ~~11~~ 111. Alternatively, such an "on hold" status may be placed within a computer ~~26~~ 126 or the previously delineated computer database and such "on hold" status may appear upon the screen or display portion of the computer ~~26~~ 126. Step 22 follows step 21 and, in this step, the needed service is accomplished, thereby substantially preventing vehicles ~~11~~ 111 having known and undesirable characteristics or attributes from being shipped. Once the service/repair has been performed on each of the targeted vehicles ~~11~~ 111, the respective "on hold" status is removed or "deprogrammed" from the respective vehicle tags ~~13~~ 113 and/or from the computer data base, thereby allowing the vehicles ~~11~~ 111 to be transported from the facility or yard ~~19~~ 119.

It is to be understood that the invention is not limited to the exact method and/or construction which has been previously described, but that various changes and modifications may be made without departing from the spirit and the scope of the invention as is more fully delineated in the following claims. Moreover, it should be realized that the foregoing method allows a business enterprise to maintain the overall quality of produced products and to contain and selectively rectify undesirable attributes and/or product characteristics within a temporary storage facility, before such products are shipped or transported to a customer or dealer.